

REMARKS

Applicant submits that claims 1-7 and 20 are readable on Embodiment 3 in which the claimed subject matter is exemplarily described with reference to Figs. 5-18. For the Examiner's consideration, Applicant exemplarily explains claim element-disclosure correspondence by pointing out claim elements in the drawings, as follows:

1. A digital watermark embedding apparatus comprising:
 - a first embedding block (110) which embeds a first digital watermark in a host data; and
 - a second embedding block (120) which embeds information on watermarking location of the first digital watermark, as a second watermark, into the host data in which the first digital watermark has been embedded.

2. The apparatus of Claim 1, wherein the first embedding block comprising:
 - a location information generating unit (60) which generates a plurality of candidate locations of the host data in which the first digital watermark is to be embedded;
 - a first embedding unit (26) which embeds the first digital watermark in the respective candidate locations of the host data and generates a plurality of candidates for a first watermarked host data;
 - a first evaluating unit (28) which evaluates robustness of the first digital watermark hidden in the respective candidates for the first watermarked host data; and
 - a first selecting unit (32) which selects one of the plurality of the candidates for the first watermarked host data according to the evaluated robustness and outputs the selected one as the host data in which the first digital watermark is embedded.

3. The apparatus of Claim 1, wherein the second embedding block comprising:

- a scrambling unit (22) which scrambles the information on the watermarking location and generates a plurality of candidate watermarks;
- a second embedding unit (27) which embeds the respective candidate watermarks in the host data in which the first digital watermark has been embedded and generates a plurality of candidates for a second watermarked host data;
- a second evaluating unit (28) which evaluates robustness of the respective candidate watermarks hidden in the respective candidates for the second watermarked host data; and
- a second selecting unit (30) which selects one of the plurality of the candidates for the second watermarked host data according to the evaluated robustness.

4. The apparatus of Claim 3, wherein the second embedding unit (27) restricts the candidates for the second watermarked host data to be within an acceptable degradation range for the host data after the first digital watermark is embedded and to be within an acceptable degradation range for the original host data before the first digital watermark is embedded.

5. The apparatus of Claim 4, wherein the second embedding unit (27) relaxes a restriction so that a part of watermarked samples of the candidates for the second watermarked host data is allowed to be out of the acceptable degradation range for the original host data before the first digital watermark is embedded.

6. A digital watermark extracting apparatus comprising:

a first extracting block (210) which extracts a first digital watermark from a twice-watermarked host data and translates the first digital watermark into information on watermarking location of a second watermark;

a removing unit (42) which removes the first digital watermark from the host data; and

a second extracting block (220) which extracts the second digital watermark from the host data from which the first digital watermark has been removed by the removing unit according to the information on the watermarking location.

7. The apparatus of Claim 6, wherein the first extracting block comprising:

an extracting unit (40) which extracts a scrambled watermark from the twice-watermarked host data; and

a descrambling unit (46) which descrambles the scrambled watermark and obtains the information on the watermarking location of the second watermark.

20. A computer program executable by a computer, the program comprising:

extracting a first digital watermark from a twice-watermarked host data and translating the first digital watermark into information on watermarking location of a second watermark (see, e.g., first extracting block (210));

removing the first digital watermark from the host data (see, e.g., removing unit (42));
and

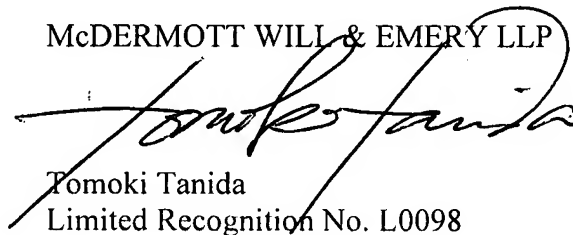
extracting the second digital watermark from the host data from which the first digital watermark has been removed according to the information on the watermarking location (see, e.g., second extracting block (220)).

Based on the foregoing, it is apparent that claims 1-7 and 20 are readable on Embodiment 3. Applicant, therefore, respectfully requests the Examiner to allow Embodiment 3 to be elected for prosecution.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Tomoki Tanida', is written over the printed name and firm name.

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